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(54) **BIOCOMPATIBLE POLYMERIC DELIVERY SYSTEMS HAVING FUNCTIONAL GROUPS ATTACHED TO THE SURFACE THEREOF**

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A61K 9/50; A61K 9/70

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(57) ABSTRACT

A method for making biocompatible polymeric matrices, particularly polymeric particles, that have functional groups on the surface thereof are provided. The method comprises: providing a biocompatible base polymer; providing a surface-active, functional polymer, hereinafter referred to as an "SAFP"; entangling chains of the base polymer with chains of the SAFP, both of which are in a mobile state; and then demobilizing the base polymer chains to form a polymeric particle or matrix having a specific geometry. Polymeric particles having functional groups on the surface thereof are also provided. The particles comprise a biocompatible base polymer and an SAFP. The SAFP comprises one or more interactive regions for physically cross-linking with the base polymer, and one or more hydrophilic regions. The particles have a core region and an outer region having an outer surface. The core region contains a plurality of biocompatible base polymer chains. The outer region of the particle contains a plurality of biocompatible base polymer chains and the interactive regions of the SAFP. The hydrophilic functional region or regions of the SAFP chains extend from the surface of the particle when the particle is placed in an aqueous solution.

20 Claims, 5 Drawing Sheets

